

AMENDMENTS TO THE CLAIMS

This listing of claims supersedes all prior listing of claims.

1. (Currently Amended) A method for frequency correction of a received signal, comprising the steps of:

receiving a signal from a transmitter in a WLAN communication system whereby the WLAN communication system comprises a single channel for receiving and transmitting signals;
processing the received signal to determine a frequency offset estimate wherein the frequency offset estimate is ~~[[the]]~~ a frequency deviation of the received signal from a local oscillator;

computing a frequency correction estimate by averaging the frequency offset estimate associated with the received signal with a previously stored frequency correction estimate, whereby the previously stored frequency correction estimate is an averaged value of the frequency offset estimate and at least one prior frequency offset estimate; and

shifting the received signal by an amount corresponding to the frequency correction estimate to correct the received signal from the transmitter. ~~; whereby the frequency correction estimate is an averaged value of the frequency offset estimate and at least one prior frequency offset estimate; and~~

~~utilizing the frequency correction estimate to correct received signals from the transmitter.~~

2. (Currently Amended) The method of claim 1 wherein the step of receiving further comprises the step of determining whether the received signal is from an access point of ~~[[the]]~~ a wireless network and if the received signal is from the access point then performing the subsequent steps of the method.

3. (Original) The method of claim 2 wherein the step of determining further comprises decoding a source field of a message encompassed in the received signal to determine a source of the message.

4. (Currently Amended) The method of claim 1 wherein the method is performed by a receiver of ~~[[the]]~~ a wireless local area network wherein the receiver is encompassed in an access point and a mobile station.

5. (Currently Amended) A method for frequency correction of a transmitted signal comprising the steps of:

transmitting a signal from a transmitter in a WLAN communication system whereby the WLAN communication system comprises a single channel for receiving and transmitting signals;
processing the signal to be transmitted to determine a frequency offset estimate wherein the frequency offset estimate is ~~[[the]]~~ a frequency deviation of the ~~received signal~~ transmitted signal from a local oscillator;

computing a frequency correction estimate by averaging the frequency offset estimate associated with the transmitted signal with a previously stored frequency correction estimate, whereby the previously stored frequency correction estimate is an averaged value of the frequency offset estimate and at least one prior frequency offset estimate; and

shifting the signal to be transmitted by an amount corresponding to the frequency correction estimate to correct signals to be transmitted from the transmitter. whereby the frequency correction estimate is an averaged value of the frequency offset estimate and at least one prior frequency offset estimate; and

~~utilizing the frequency correction estimate to correct signals to be transmitted from the transmitter.~~

6. (Currently Amended) The method of claim 5 wherein the method is performed by ~~[[a]]~~ the transmitter of ~~[[the]]~~ a wireless local area network wherein the transmitter is encompassed in an access point and a mobile station.

7. (Currently Amended) A system for frequency correction in a wireless local area network, such system comprising:

a preamble and training sequence processor configured to receive a signal from a transmitter in the wireless local area network and outputting a frequency offset estimate wherein the frequency offset estimate is a frequency deviation of the received signal from a local oscillator;

an averager coupled to the output of the preamble and training sequence processor where ~~the average~~ the averager provides a frequency correction estimate based upon a mathematical average of the frequency offset estimate provided by the preamble and training sequence processor and ~~at least one prior frequency offset estimate~~ a previously stored frequency correction estimate, whereby the previously stored frequency correction estimate is an averaged value of the frequency offset estimate and at least one prior frequency offset estimate; and

a frequency corrector which shifts the received signal by an amount corresponding to the frequency correction estimate to output a corrected received signal.

8. (Currently amended) A system for frequency correction in a wireless local area network, such system comprising:

a preamble and training sequence processor configured to receive a signal from a transmitter in the wireless local area network and outputting a frequency offset estimate wherein the frequency offset estimate is a frequency deviation of the received signal from a local oscillator;

an averager coupled to the output of the preamble and training sequence processor, where the averager provides a frequency correction estimate based upon a mathematical average of the frequency offset estimate provided by the preamble and training sequence processor and at least one prior frequency offset estimate;

a frequency corrector which shifts the received signal by an amount corresponding to the frequency correction estimate to output a corrected received signal; and

~~The system of claim 7 further comprising~~ a MAC subsystem coupled to the input of the averager to determine a source of a message of the received signal wherein the MAC subsystem causes

the averager to provide a frequency correction estimate if the source of the message is an access point.

9. (Original) The system of claim 7 wherein the system is embodied in elements of the wireless local area network comprising an access point and a mobile station.

10. (Currently Amended) A system for frequency correction in a wireless local area network, such system comprising:

means for receiving a signal from a transmitter in a WLAN communication system whereby the WLAN communication system comprises a single channel for receiving and transmitting signals;

means for processing the received signal to determine a frequency offset estimate wherein the frequency offset estimate is [[the]] a frequency deviation of the received signal from a local oscillator;

means for computing a frequency correction estimate by averaging the frequency offset estimate associated with the received signal with a previously stored frequency correction estimate, whereby the previously stored frequency correction estimate is an averaged value of the frequency offset estimate and at least one prior frequency offset estimate; and

means for shifting the received signal by an amount corresponding to the frequency correction estimate to correct the received signal from the transmitter. ~~whereby the frequency correction estimate is an averaged value of the frequency offset estimate and at least one prior frequency offset estimate; and~~

~~means for utilizing the frequency correction estimate to correct received signals from the transmitter.~~